



## THE MORE IMPORTANT RECORDS FOR AUGUST, 1933

The grasshopper situation in the Northern Plains States continued serious through August. Populations are heavy over much of this territory and unless unfavorable weather conditions prevail next spring the outlook for destruction by grasshoppers next year is more serious than it has been any previous year of the present outbreak. Outside of this most heavily infested territory grasshoppers were reported as unusually abundant in parts of Virginia, Oklahoma, Nevada, Arizona, and Utah.

Important infestations of Mormon crickets were reported from parts of Montana and isolated localities in Nevada, Utah, and North Dakota.

The fall armyworm appeared late in the month in Arkansas, Mississippi, and Texas. In Mississippi heavy damage was reported from several sections of the State.

Brood A of the white grubs was rather heavily infesting pastures in Indiana, Wisconsin, Minnesota, Iowa, and Missouri.

The Asiatic garden beetle was more abundant this year and injury much more extensive than during any previous season in the New York - New Jersey area. Another scarabæid, Serica similis Lewis, was taken for the first time at Mill Neck, N. Y.

In this number of the Survey Bulletin are summaries of the Hessian fly survey in Ohio and Illinois. The infestations are much lighter than last year, being 8 per cent in 1933 and 34 per cent in 1932 in Ohio, and 3.76 per cent in Illinois in 1933 and 29 per cent in 1932.

The chinch bug appeared during the month in large numbers in parts of New England and Pennsylvania, far east of its normal habitat. It also continued to be unusually abundant north of the chinch bug belt in Michigan, Minnesota, and Iowa. Within the chinch bug belt heavy populations were appearing from Ohio to Missouri indicating large numbers of bugs to go into hibernation and the possibility of outbreaks next year.

The corn ear worm was quite generally reported as destructively abundant throughout practically the entire territory east of the Rocky Mountains. Along the Middle Atlantic and South Atlantic seaboard damage was quite generally severe.

The lesser corn stalk borer was heavily infesting corn fields from eastern shore Virginia to Florida, in limited areas the entire stand of late sweet corn being destroyed.

The corn leaf aphid was damaging corn locally from Kansas to Michigan.

Late worm injury by codling moth was quite generally reported from the Middle Atlantic and South Atlantic States westward to Missouri and Kansas.

Heavy rains which occurred over much of the area infested by the oriental fruit moth produced new succulent growth favoring twig infestation over unusual periods.

In the South Atlantic peach belt plum curculio damage was decidedly subnormal. Similar light infestation was reported from Arkansas.

In the grape-growing section of Michigan there was a very heavy infestation of the grape berry moth.

The occurrence of vinegar flies, Drosophila spp., in cannery tomatoes along the Atlantic seaboard was occasioning considerable alarm among canners as the larvae infest the tomatoes before canning.

The Mexican bean beetle was quite generally reported abundant throughout the New England, and Middle Atlantic States, while in the South Atlantic, and East Central States it was less abundant than last year. Heavy infestations were reported from Colorado and New Mexico.

The onion thrips was much more abundant than it has been for several years in the Connecticut Valley of Massachusetts and Connecticut.

Elm leaf beetle was reported during the month as browning foliage in many localities in the New England and Middle Atlantic States southward to Maryland and westward to Ohio.

Outbreaks of screw worm fly were reported from parts of southern Georgia and northern Florida this year. There are no previous reports of outbreaks of this insect in this region.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

- Virginia. The Evening Star, Washington, D. C. (July 15): A farmer on the Spring Hill road, near Staunton, reported that grasshoppers have practically destroyed three fields of clover and that huge swarms are infesting farms in that section, cutting off the growth on an 18-acre two-field planting of new clover at the ground. Reports have also come that grasshoppers have attacked timothy hay and have spread to gardens and elsewhere in that vicinity.
- Illinois. W. P. Flint (August 22): Very little grasshopper damage is reported from any part of the State.
- Kentucky. M. L. Didlake (August 25): Grasshoppers are very abundant. There are complaints of injury to dahlias and zinnias everywhere around Lexington.
- North Dakota. J. A. Munro (August 21): A survey made through Cass and Richland Counties August 8 and 9 showed that Melanoplus bivittatus Say constituted about 20 per cent of the injurious species; the balance consisted largely of M. mexicanus Sauss. and Camnula pellucida Scudd. In 1932 the distribution of species differed in that M. bivittatus constituted between 85 and 90 per cent of the population and the balance were other injurious species.
- Iowa. H. E. Jaques (August 23): Grasshoppers are unusually scarce in most of the State.
- Minnesota. A. G. Ruggles (August 21): Egg laying in process. The weather is ideal for grasshoppers. No appreciable crop loss has been reported. One hundred carloads of bait have been used, as compared with 500 last year, showing that the 2 years of campaign kept grasshoppers under control.
- Wisconsin. E. L. Chambers (August): Grasshoppers are very abundant in northern and central Wisconsin.
- Tennessee. G. M. Bentley (August): Grasshoppers are scarce. Relatively fewer individuals than normal are present at this time.
- Oklahoma. C. F. Stiles (July 27): Grasshoppers are quite numerous in some places in the southwestern part of the State, but I have been unable to check up on the damage to date. They are moderately abundant in western Oklahoma.
- Nebraska. M. H. Swenk (August 21): Grasshoppers are moderately abundant, mostly in central Nebraska. Reported from Greeley, Dawson, and Lincoln Counties during the period July 20 to August 21.
- Montana. A. L. Strand (August 19): The migratory grasshopper, M. mexicanus, has increased this year to outbreak numbers over large areas, especially in northern and eastern Montana. About 30 counties are facing severe outbreaks for the coming season.
- Colorado. G. M. List (August 24): The grasshopper infestation has been rather spotted, there having been no really serious outbreaks, but the infestation in the foothills region east of the mountains, is heavy enough to call for considerable control work.



Nevada. G. G. Schweis (August 21): Grasshoppers of several species have been troublesome in widely scattered areas in Nevada, doing much damage to alfalfa and grain. Control measures were necessary in some instances, and the hoppers took the bait readily, resulting in a good kill.

Utah. G. F. Knowlton (August 18): Grasshoppers are damaging young fall wheat at Mt. Pleasant and Minersville.

Arizona. C. D. Lebert (August 26): The pest of primary concern this month is grasshoppers. We have had the most severe infestation this year that has ever been recorded in this State. M. mexicanus was observed early, in fact as early as April this hopper was observed mating in the fields. Consequently, during the last half of May and extending well into the month of June there was a very heavy infestation of this species in the Salt River Valley. Drastic control measures were immediately put into effect. But beginning the latter part of June and extending through July the large differential grasshopper, M. differentialis, became very abundant in practically all areas of the Salt River Valley, especially in the Glendale, Laveene, South Tempe, and Mesa areas. Then at the peak of the differential grasshopper development another brood of M. mexicanus became abundant. Several fields of cotton have been completely destroyed, as well as several plantings of hegari. Many alfalfa fields have been stripped and much garden stuff has been ruined.

New Mexico. J. R. Eyer (July 24): M. femur-rubrum DeG. is moderately abundant in the northeastern part of the State.

Oregon. D. C. Mote (July 25): M. saltator Scudd. was reported as damaging a mint field at Jefferson July 10.

#### EASTERN LUBBER GRASSHOPPER (Romalea microptera Beauv.)

Georgia. W. H. Clarke (July 26): Thousands of lubber grasshoppers were observed between Ellijay and Talking Rock on State Highway No. 5. Many had been killed by cars.

J. B. Gill (August 22): Lubber grasshoppers are moderately abundant at Tifton.

Mississippi. C. Lyle and assistants (August): Lubber grasshoppers are moderately abundant at Ocean Springs.

#### MORMON CRICKET (Anabrus simplex Hald.)

North Dakota. J. A. Munro (August 21): Many specimens have been received from various parts of the State, with one report of crop injury from Burke County.

Montana. A. L. Strand (August 19): Important infestations occur in four different sections of Montana as follows: Pryor Mountains and Wolf Mountains in Big Horn County; Dryhead district in Carbon County; Sanders and Lake Counties; Little Rockies in Blaine and Phillips Counties. The Pryor Mountain, Wolf Mountain, and Dryhead infestations are by far the most important, and a campaign against the crickets is being organized for next season.

Nevada. G. G. Schweis (August 21): An infestation<sup>was</sup> reported from the Utah-Nevada line, but this report has not been confirmed by this office.

Utah. G. F. Knowlton (July 22): A small outbreak is reported from Rich County.

FALL ARMYWORM (Laphygma frugiperda S. & A.)

Arkansas. D. Isely (August 23): Scattered infestations appeared in northwestern Arkansas in early August. As yet there has been little injury.

Mississippi. C. Lyle (August 23): Severe injury to young corn at Poplarville, Pearl River County, was reported on July 26. Since that time, reports of heavy damage to young corn have been received from several sections of the State. During the past few days specimens or authentic reports regarding their occurrence have been received from Lincoln, Sunflower, Monroe, and Oktibbeha Counties.

Texas. F. L. Thomas (July 29): Grass worms appeared very scatteringly at College Station on July 22.

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis Hbn.)

Florida. J. R. Watson (August 24): The velvetbean caterpillar appeared in Polk County in July and in Alachua County in early August. It is not as yet very abundant in the latter county.

WHITE GRUBS (Phyllophaga spp.)

Indiana. J. J. Davis (August 29): White grubs were reported very abundant in sod at Hobart, July 30.

Wisconsin. E. L. Chambers (August): White grubs are very destructive to corn, oats, and pasture lands in the southeastern part of the State from Marinette County southward through Waushara County to Vernon County.

C. L. Fluke (July 25): Brood A white grubs are doing considerable damage to pastures in southwestern Wisconsin. Population studies show from 200,000 to 800,000 per acre. Larvae of brood C pupated by the middle of July.

Minnesota. A. G. Rugles (August 21): White grubs are very abundant.

Iowa. H. E. Jaques (August 23): White grubs are showing up and causing severe damage to lawns, pastures, etc., in some localities in the areas usually harboring brood A.

Missouri. L. Haseman (August 23): White grubs are abundant, and moles have been doing serious damage to crops while seeking for and feeding on them.

GREEN JUNE BEETLE (Cotinis nitida L.)

Georgia. W. H. Clarke (July 18 to 28): Green June beetles were numerous about home orchards near Athens, Gainesville, Cleveland, Morganton, Lafayette, and Bremen. No serious injury was noted.

JAPANESE BEETLE (Popillia japonica Newm.)

New Jersey, Pennsylvania, and Delaware. C. H. Hadley (August 22): Adults in the more heavily infested sections of New Jersey, Pennsylvania, and Delaware

decreased rapidly at the end of July, and in August were reduced so much that relatively little, if any, damage to vegetation appears to have been done. Compared with most years, the infestation this summer was quite light in most places. Larvae which hatched from eggs laid during the present season appear to be of about the same numerical strength as at the corresponding time last year. Rainfall during the present summer has been copious and has provided conditions much more favorable to larval survival than was the case in the summer of 1932, when the prevailing drought appears to have been the prime factor in reducing the adult beetle population to the low point witnessed this year. The importance of wind as a factor in promoting the spread of the Japanese beetle was emphasized by the discovery of numerous beetles washed up along the south shore of Long Island as far east as Fire Island. As far as known, these beetles were all dead. Large numbers of beetles were also found washed up along the south shore of Delaware Bay, of which some were alive. This observation shows that a body of water as wide as Delaware Bay would be only a partial obstacle in checking the spread of the beetle.

Maryland. E. N. Cory (August 22): Infestation in the sprayed area is much lighter than last year. There is a marked difference in the condition of sprayed and unsprayed foliage.

#### ASIATIC GARDEN BEETLE (Autoserica castanea Arrow)

New York, New Jersey, and Pennsylvania. C. H. Hadley (June): This insect is more abundant than last year, and the grub injury has been much more extensive than during any previous season. The most serious plant injury occurred in the unemployment gardens (76 acres in all) distributed throughout Nassau County. There were large areas in several of these gardens where it was impossible to grow any vegetables until after the grub stage was past. There has also been garden injury in private gardens (ornamental and vegetable) in Nassau and Westchester Counties. The injury was heaviest in gardens which were in sod last year, but there was also heavy plant destruction in gardens which had been under cultivation for several years. In surveys made for the Japanese beetle the following distributional records for A. castanea were obtained; at the Boaderwood Golf Course at Rydal, Pa.; in Fairmount Park, Philadelphia, Pa.; at the St. Davids Golf Course near Wayne, Pa.; at the Seaview Golf Course near Atlantic City (Atlantic County), N.J. (August 22): On Long Island it has also been causing for the first time extensive injury in vegetable gardens, especially to bean, beet, cabbage, carrot, eggplant, kohlrabi, parsnip, pea, pepper, and turnip.

Rhode Island. A. E. Stene (August 21): One specimen has been captured in a trap in Westerly.

#### JAPANESE SERICA (Serica similis Lewis)

New York. C. H. Hadley (June): On June 15 S. similis was taken at Mill Neck, for the first time. At this locality during June, 178 adults were taken in the traps which were set up to catch Japanese beetles.

#### WIREWORMS (Elateridae)

Vermont. H. L. Bailey (August 21): Wireworms are very abundant. They have damaged corn severely in various parts of the State, particularly in Windham County.



# CEREAL AND FORAGE - CROP INSECTS

## WHEAT

### HESSIAN FLY (Phytophaga destructor Say)

Ohio. T. H. Parks (August 24): A survey of 26 counties shows the present infestation to be slightly more than 8 per cent, compared with 34 per cent infestation in 1932. The infestation ranges from 2.4 per cent in Drake County to 15.6 per cent in Clinton County. There was no serious damage to any wheat in 1933.

Illinois. W. P. Flint (August): The results of the Hessian fly survey for August are as follows:

Average proportion of wheat tillers infested

<u>County</u>	<u>Per cent</u>	<u>County</u>	<u>Per cent</u>
Adams	4	Livingston	0
Carroll	1	McDonough	2
Champaign	2	McLean	3
Christian	6	Marion	3
Clark	10	Menard	2
Clinton	0	Montgomery	3
Coles	6	Morgan	1
Crawford	11	Moultrie	6
DeWitt	8	Peoria	1
Douglas	6	Perry	8
Edgar	13	Piatt	2
Effingham	13	Pike	1
Fayette	5	Randolph	3
Ford	2	Rock Island	2
Fulton	1	Saline	2
Gallatin	2	Sangamon	5
Greene	5	St. Clair	1
Iroquois	3	Tazewell	6
Jackson	3	Vermilion	3
Jersey	6	Wabash	3
Kankakee	1	Washington	1
Lawrence	4	White	1
Lee	0	Whiteside	2

State average infestation 3.76.

Missouri. L. Haseman (August 23): The Hessian fly report recently submitted for Missouri shows the pest not serious in the northern part of the State, but threatening in southern portions.

Nebraska. M. H. Swenk (August 21): The Hessian fly is very abundant in south-central and moderately abundant in southeastern Nebraska.

### WHEAT STEM MAGGOT (Meromyza americana Fitch)

Kansas. H. R. Bryson (August 21): The wheat stem maggot is more abundant than usual at Manhattan.

WHEAT MIDGE (Contarinia tritici Koy.)

Ohio. T. H. Parks (August 1): We have received a sample of wheat from Fairfield County with so many of these larvae in it that the owner feared to store the grain. From the numbers of the larvae present the insects must have damaged the milky kernels and reduced the yield. No general outbreak of the wheat midge occurred in Ohio.

BLACK GRAIN STEM SAWFLY (Trachelus tabidus Fab.)

Virginia. J. S. Pinckney (June): Slight infestations of this sawfly were found in the Counties of Louisa (2 per cent), Spotsylvania (1 per cent), Essex (1 per cent), King George (1 per cent), Richmond (1 per cent), Westmoreland (1 per cent), and Fairfax (1 per cent). Other counties in the principal wheat-growing areas showed no infestation. Injury to wheat from this source was obviously negligible. The survey was based on the examination of 5 widely distributed samples of wheat stems from each County.

Maryland. J. S. Pinckney and E. J. Udine (July): Infestations of the black grain-stem sawfly were found in the Counties of Baltimore (11 per cent), Carroll (4 per cent), Frederick (5 per cent), Harford (2 per cent), Howard (2 per cent), Montgomery (6 per cent), and Washington (2 per cent). Injury to the wheat crop from this source was negligible. Five widely distributed samples of 50 wheat stems each from each county formed the basis of this survey. This is a noticeable increase in infestation over last year, when no sawflies were found in the course of a similar survey.

Pennsylvania. C. C. Hill, J. S. Pinckney, and E. J. Udine (June - July): Infestations in wheat were found in all sections of the State surveyed for this pest. In many fields the grain was conspicuously knocked over from this cause, with the accompanying loss of wheat usually experienced by lodging. Each sample examined consisted of 50 stems. The infestations by counties are as follows:

County	Number of Samples examined	Rate of infestation (per cent)	County	Number of samples examined	Rate of infestation (per cent)
Adams	5	3	Juniata	5	2
Cumberland	7	14	Lebanon	5	1
Dauphin	5	1	Perry	5	5
Franklin	5	7	Westmoreland	5	2
Fulton	5	8	York	5	3

Average 5 per cent

WHEAT STEM SAWFLY (Cephus cinctus Nort.)

North Dakota. J. A. Munro (August 21): The wheat stem sawfly is reported as prevalent in the eastern part of Oliver County.

SAY'S STINK BUG (Chlorochroa sayi Stal)

Montana. A. L. Strand (August 19): The grain bug or Say's plant bug has been exceptionally abundant in grain fields of north-central Montana. This is believed to be the first important outbreak of this insect in the State.



CORN

CHINCH BUG (Blissus leucopterus Say)

Maine. H. B. Peirson (August 4): Immature nymphs are migrating from mown fields and swarming over fences, houses, etc., at Old Orchard.

Vermont. H. L. Bailey (August 21): Chinch bugs are abundant and doing considerable damage to corn in several fields in Ferrisburg and Vergennes, Addison County. First record of damage by this insect in Vermont, so far as I am aware.

Connecticut. W. E. Britton (August 24): The bugs are infesting and causing brown spots in bent grass lawns at Hartford and Bridgeport.

Pennsylvania. C. C. Hill, J. S. Pinckney, and E. J. Udine (August 3): Chinch bugs were found damaging corn in the Counties of Adams, Cumberland, Perry, Juniata, Montour, Northumberland, Union, Columbia, and Snyder.

Ohio. T. H. Parks (August 24): The chinch bug is very abundant.

Illinois. W. P. Flint (August 22): Weather conditions have been highly favorable for the development of chinch bugs throughout central Illinois. In most cases the rainfall has been below normal and temperature conditions about normal. This has resulted in a heavy second brood of the bugs. At present more or less serious damage is occurring in about 60 counties, with prospects for a still greater population next year.

Michigan. E. I. McDaniel (August 9): The chinch bug continues to appear in the southern two tiers of counties of Michigan.

Wisconsin. E. L. Chambers and assistants (August): The chinch bug is very abundant in Pepin County.

Minnesota. A. G. Ruggles (August 21): The chinch bug is very abundant in a few counties.

Iowa. C. J. Drake (August 28): Weather conditions have been favorable for both the first and second generations of chinch bugs in southern Iowa. The second generation is scattered very widely, and around 25 to 30 counties in southern Iowa are infested. Extensive burning campaigns have been planned for this fall.

Missouri. L. Haseman (August 23): The chinch bug situation is alarming. The summer generation of young is very abundant on corn, even feeding in sweet corn ears at Columbia.

Kansas. H. R. Bryson (August 21): Chinch bugs are not so numerous at Manhattan as might be expected at this time of year, if one compares the present abundance with that observed at harvest time.

Oklahoma. C. E. Sanborn (August 22): Chinch bugs are abundant in some localities.

Nebraska. M. H. Swenk (August 21): Chinch bugs are very abundant in southeastern Nebraska.

CORN EAR WORM (Heliothis obsoleta Fab.)

- New Jersey. B. F. Driggers, R. C. Burdette, and C. C. Hamilton (August 25): The corn ear worm is very abundant.
- Maryland. L. P. Ditman (August 22): The corn ear worm is attacking early canning corn in general.  
J. A. Hyslop (August 5): Ears of sweet corn at Avenel are 100 per cent infested; larvae are mostly full grown.
- North Carolina. W. A. Thomas (August 11): Late corn at Chadbourn, which at the present time has reached a height of about 2 feet, is being seriously damaged. The bud in most cases has been reduced to frass, stopping all growth. In some fields fully 90 per cent of all stalks are affected.
- South Carolina. F. Sherman and associates (August 21): The percentage of wormy tomatoes at Clemson College suddenly increased about August 18.
- Georgia. W. H. Clarke (August 1): The corn ear worm is very abundant at Thomaston. Much injury has been done to corn and some to tomatoes.
- Indiana. J. J. Davis (August 29): The corn ear worm has been very abundant on tomatoes and corn throughout the State.
- Illinois. W. P. Flint (August 22): The corn ear worm is very abundant throughout central and southern Illinois.
- North Dakota. J. A. Munro (August 21): The corn ear worm is very abundant on corn at Lisbon.
- Iowa. H. E. Jaques (August): The corn ear worm is moderately abundant in the northwestern part of the State.
- Minnesota. A. G. Ruggles (August 21): The corn ear worm is very abundant. There are more complaints of damage to ground cherries (Physalis) than usual this year.
- Missouri. L. Haseman (August 23): The corn ear worm is causing considerable damage this month but is not so abundant as it has been some years.
- Tennessee. G. M. Bentley (August 15): The corn ear worm is scarce.
- Louisiana. W. E. Hinds (August 29): The corn ear worm is very abundant in late corn.
- Oklahoma. C. F. Stiles (August 22): Corn ear worms are causing untold damage throughout Oklahoma. They are attacking all late corn, cotton squares, bolls, kafir heads, and even the leaves on peanut plants. Tomato is also being seriously injured.
- Colorado. G. M. List (August 24): The corn ear worm is less abundant than usual. Very few of them have been reported in sweet corn but there is an occasional specimen found in tomatoes.

Utah. G. F. Knowlton (August 5): Damage to sweet corn is quite general in northern Utah. (August 18): Injury to sweet corn occurred later than usual in Cache Valley, and much of the corn has been harvested with a low percentage of infestation.

STALK BORER (Papaipema nebris nitela Guen.)

New Hampshire. L. C. Glover (August 23): The stalk borer is moderately abundant.

Massachusetts. A. I. Bourne (August 22): The common stalk borer was present very generally, but apparently in considerably less than normal abundance.

New York. P. J. Parrott (August 23): The stalk borer is moderately abundant.

New Jersey. B. F. Driggers, R. C. Burdette, and C. C. Hamilton (August 25): The stalk borer is moderately abundant.

Delaware. D. MacCreary (August 23): The stalk borer is moderately abundant in sweet corn plantings at Bridgeville.

Ohio. E. W. Mendenhall (August 24): The stalk borer is moderately abundant on several stock plants.

Indiana. J. J. Davis (August 29): Stalk borer reported abundant on potato at Milton, July 29.

Iowa. H. E. Jaques (August): The stalk borer is present generally throughout the State, being moderately abundant in most localities.

LESSER CORN STALK BORER (Elasmopalpus lignosellus Zell.)

Virginia. H. G. Glover (August 25): The lesser corn stalk borer has been causing rather serious damage to young Ford Hook lima beans in some fields on the Eastern Shore of Virginia.

North Carolina. W. A. Thomas (August): The lesser corn stalk borer was extremely destructive on corn, cowpeas, and beans during late July, in many cases completely destroying the stand of plants at Chadbourn. In early August the larvae were doing considerable damage to young runner strawberry plants.

South Carolina. O. L. Cartwright (August 21): The lesser corn stalk borer did more injury in the State than usual, especially in the eastern portion.

Georgia. W. H. Clarke (August 2): A large field of late corn at Fort Valley has been ruined. Most of the corn is dead and the remainder of no value, practically every stalk showing injury.

Florida. J. R. Watson (August 24): The lesser corn stalk borer, which was so injurious to corn the early part of the season, also did considerable damage to cowpeas later on.

SOUTHERN CORN STALK BORER (Diatraea crambidoides Grote)

South Carolina. O. L. Cartwright (August 21): There is more infestation by the larger corn stalk borer at Clemson College than usual.



CORN ROOT WEBWORM (Crambus caliginosellus Clem.)

Kansas. H. R. Bryson (August 21): Reports of injury of the sod webworm (C. caliginosellus Clem.) were received from Norton and Bloom on July 27 and August 1, respectively.

CORN LEAF APHID (Aphis maidis Fitch)

Indiana. J. J. Davis (August 29): Corn leaf aphid was reported seriously damaging corn at Jeffersonville, August 19.

Michigan. R. H. Pettit (August 19): We have received large quantities of the corn leaf aphid from Traverse City, Sault Ste. Marie, and Fremont. It is also reported as being very common in the Upper Peninsula. Wherever it occurs, it is in enormous numbers.

Nebraska. M. H. Swenk (August 21): Reports from Otoe, Dodge, and Nance Counties stated that the corn leaf aphid was infesting corn. A York County correspondent reported it working on pop corn.

Kansas. H. R. Bryson (August 21): The corn leaf aphid has been unusually destructive to late corn and sorghums in Kansas this season. In many instances the tassels have been so injured or infested as to interfere seriously with pollination. Two reports were received from Orion and Spearville. The infestation is heavier on sorghums at Manhattan than it has been for several years.

Iowa. C. J. Drake (August 28): Heavy infestation may be found locally throughout Iowa. Near Sheffield approximately one-half of five hundred acres of corn has been destroyed.

COLORADO CORN ROOT WORM (Diabrotica virgifera Lec.)

Nebraska. M. H. Swenk (August 21): An inquiry concerning the Colorado corn root worm was received from Redwillow County on August 15.

CARROT BEETLE (Ligyrus gibbosus DeG.)

South Carolina. O. L. Cartwright (August 21): Carrot beetles are now being taken in trap lights at Clemson College in large numbers.

Indiana. J. J. Davis (August 29): Adults were eating the underground parts and killing sunflowers planted for the seed crop at Kendallville, August 10.

SOUTHERN CORN LEAF BEETLE (Myochrous denticollis Lec.)

Mississippi. C. Lyle (August 23): Specimens were received from Ripley, Tippah County, on August 18, the sender indicating that he found a number of them on corn plants.

CORN BILLBUGS (Calendra spp.)

South Carolina. O. L. Cartwright (August 21): Billbugs are doing more damage to corn than usual at Florence.

A BUMBLE FLOWER BEETLE (Euphoria inda L.)

Michigan. R. H. Pettit (August 23): E. inda has just appeared in ears of sweet corn. During the past week samples have been sent in from Marine City and Vestaburg.

Minnesota. A. G. Ruggles (August 21): Many reports have been received of abundance of this beetle on sweet corn.

ALFALFA

ALFALFA WEEVIL (Hypera postica Gyll.)

Nevada. G. G. Schweis (August 21): Alfalfa weevils are very numerous in the fields, much more so than in the past several years. If something unforeseen does not happen to them during the winter, the prospects are for a lot of damage next spring.

Iowa. R. W. Haegele (July 27): The alfalfa weevil is moderately abundant in eastern Idaho.

California. A. E. Michelbacher (August 21): The alfalfa weevil in most areas is hard to find. In the territory about Tracy and Pleasanton both the larvae and adults are very scarce. In some fields in the Niles area both adults and larvae can be taken in small numbers. In one field one half grown (fourth crop) an average of 45 larvae and 2 adults were taken per 100 sweeps.

SOUTHWESTERN ARMYWORM (Prodenia praefica Grote)

California. A. E. Michelbacher (August 21): The yellow striped armyworm caused some damage to the fourth crop of alfalfa in the region about Vernalis (near Tracy). On August 7 the damage was severe enough in spots in several fields to give the alfalfa a grayish tinge.

ALFALFA CATERPILLAR (Eurymus eurytheme Bdv.)

Arizona. C. D. Lebert (August 26): Adults have been exceptionally numerous in the alfalfa fields of the Salt River Valley during the month of August.

California. A. E. Michelbacher (August 21): On August 7 the alfalfa butterfly was observed to be rather abundant in the territory about Pleasanton. On August 21 many of the butterflies were observed flying in the fields about Tracy.

A CHRYSOMELID (Zygogramma conjuncta Rogers)

Nevada. G. G. Schweis (August 11): Specimens were collected on alfalfa and weeds in Nye County.

COWPEAS

COWPEA CURCULIO (Chalcodermus aeneus Boh.)

North Carolina. W.A. Thomas (July 15): The cowpea pod weevil is present in the fields at Chadbourn in about the same numbers as last season. It has been

observed that certain varieties of cowpeas are much more susceptible to attack than others, notably the Crowder variety.

### CROTALARIA

#### BELLA MOTH (Utetheisa bella L.)

South Carolina. O. L. Cartwright (August 21): Bella moth larvae are doing noticeable damage to seedpods of Crotalaria at Florence.

### SOYBEANS

#### VELVETBEAN CATERPILLAR (Anticarsia gemmatilis Hbn.)

Louisiana. W. E. Hinds (August 29): A. gemmatilis is stripping soybeans in a few areas in southern Louisiana and moths (probably migrated specimens) are being found at Baton Rouge and at other points farther North. We find that the eggs of this species are being attacked by Trichogramma, as we would expect them to be. The highest parasitism found thus far is among Anticarsia eggs laid on soybeans planted in a cornfield where we liberated Trichogramma for the control of Diatraea saccharalis Fab. The colonization was made on August 5, and on August 24 95 per cent of the Anticarsia eggs were found parasitized.

### SUGARCANE

#### SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana. W. E. Hinds (August 29): Sugarcane borers are increasing quite rapidly with the beginning of the fourth generation now underway. Heaviest infestation is restricted to comparatively small areas and is not general. Trichogramma minutum Riley parasitism in borer eggs is running somewhat below the general average for this date a year ago but colonization is showing a distinct advantage as in previous years.

## F R U I T I N S E C T S

### APPLE

#### CODLING MOTH (Carpocapsa pomonella L.)

South Carolina. W. C. Neetles (August 21): Very severe damage is being caused at Clemson College by the third brood; previous damage was light.

Ohio. T. H. Parks (August 24): The codling moth is more troublesome than usual. The season has been very favorable to the insect, and a few orchards which have suffered damage in the past have more worm entrances than in former years. This is apparently due to the use of calcium arsenate in the second-brood spray. Some orchardists who followed a very complete and careful spray program are experiencing serious trouble with late entering worms. The outbreak is largely limited to Lawrence County and to orchards along the west end of Lake Erie.



- Indiana. J. J. Davis (August 29): Codling moth has had unusually favorable conditions the past season and has been most difficult to hold in check. Huge losses have resulted.
- Illinois. W. P. Flint (August 22): The codling moth is still extremely abundant. Large numbers of moths are now being taken in bait traps, both in southern and central Illinois. The hatch of worms will certainly continue up to and probably beyond September 1.
- Wisconsin. C. L. Fluke (July 25): The codling moth is moderately abundant. The second brood began emerging the middle of July.
- Missouri. L. Haseman (August 23): A very heavy moth emergence has been on since August 15. Late worms are a real problem throughout State. Control is quite satisfactory, however.
- Kansas. H. R. Bryson (August 21): An examination of banded apple trees at the College Horticultural Farm at Manhattan August 19 revealed as many as 150 larvae per tree. The infestation at this farm is very much greater than last year.
- Nevada. G. G. Schweis (August 21): The codling moth is very abundant at Reno. Practically all unsprayed fruit is infested.
- Utah. G. F. Knowlton (August 18): Codling moths have attacked most of the apples at The Dell, in Skull Valley. Two sprays were applied. The insect is moderately abundant in northern Utah and doing considerable damage on a light crop of apples.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

- Connecticut. W. E. Britton (August 24): The eastern tent caterpillar is very abundant.
- North Dakota. J. A. Munro (August 25): Reports that the tent caterpillar is very abundant in Valley City and vicinity have been received.

FRUIT TREE LEAF ROLLER (Cacoecia argyrospila Walk.)

- New Mexico. J. R. Eyer (July 24): Fruit tree leaf rollers are moderately abundant all over the State.

APPLE LEAF SKELETONIZER (Psorosina hammondi Riley)

- Kentucky. M. L. Didlake (August 25): The apple leaf skeletonizer is very abundant in western Kentucky.
- Tennessee. G. M. Bentley (August): Apple leaf skeletonizers were collected July 22 in Obion County, 16 miles from Union City. Adults were obtained August 7 from the material.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

- New Hampshire. L. C. Glover (August 23): The peak in emergence of adults from 10 cages placed under trees in the University orchard occurred between July 24

and 26. A lesser peak occurred on July 20. Two peaks of emergence of adults from second-year puparia were noted; one on July 8 and one on July 12.

WOOLLY APPLE APHID (Eriosoma lanigerum Hausm.)

California. E. O. Essig (August 21): The woolly apple aphid is very abundant at Berkeley.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Tennessee. G. M. Bentley (August): The San Jose scale is moderately abundant all over the State, in orchards and on wild stock. Nursery stock is fairly clean.

PEAR LEAF BLISTER MITE (Eriophyes pyri Pgst.)

Utah. G. F. Knowlton (August 1): Pear leaf blister mites have caused serious injury to a few apple trees at Smithfield. Apple trees at The Dell are heavily infested.

PEACH

ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

Massachusetts. A. I. Bourne (August 22): Injury by the oriental fruit moth is very general in peach-growing sections.

Connecticut. P. Garman (August 23): In general the infestation is declining, but there are prospects of considerable damage in some orchards this year.

Delaware. D. MacCreary (August 23): The oriental fruit moth is moderately abundant on peaches. Fruit injury is somewhat greater in some areas than during the previous three years.

Maryland. H. S. McConnell (August 22): The oriental fruit moth is very abundant.

Illinois. W. P. Flint (August 22): Oriental fruit moth adults have been taken in larger numbers than usual in bait traps.

South Carolina. W. C. Neetles (August 21): At Clemson College there was less damage than usual to Elberta peaches, but more damage than usual to varieties ripening later than Elberta.

Ohio. E. W. Mendenhall (August 24): The oriental fruit moth is very abundant this year all over the State, especially where treatment was not given.

Indiana. J. J. Davis (August 29): The oriental fruit worm has been very abundant. The earliest peaches were not heavily infested in many cases but the later peaches were almost universally infested and frequently very heavily infested. Where peaches adjoin or are interplanted with apple, the apple fruit will almost certainly show a high infestation.

Arkansas. D. Isely (August 23): The oriental fruit moth is unusually abundant for this time of year in green peach shoots. Probably this is due to the late rains which have caused an excessive amount of green growth.

Georgia. W. H. Clarke (August 4): At Woolsey and Thomaston twigs have hardened and larvae are scarce in twigs. (August 11): At Newman the larvae are scarce in twigs; at Madras a good many larvae are found in twigs, and succulent growth is plentiful and has not hardened in this orchard.

O. I. Snapp (August 1): As usual, the fruit infestation was extremely light this year at Fort Valley. Of 6,480 peaches cut open and examined, only 24, or 0.37 per cent, were found to be infested. Of 12,217 Elberta peaches cut open and examined, only 17, or 0.14 per cent, were found to be infested. A total of 18,697 peaches were cut open and examined in the Hiley and Elberta orchards, and the average percentage of them infested was only 0.22.

Tennessee. G. M. Bentley (August): The oriental fruit moth is scarce all over the State. Apparently this is the time between broods. Early damage was heavy.

#### PEACH BORER (Aegeria exitiosa Say)

New York. P. J. Parrott (August 23): The peach borer is very abundant.

Georgia. O. I. Snapp (August 21): Field mice and rats are again destroying many pupae at Fort Valley. We are finding hundreds of empty fresh cocoons near the base of peach trees which these predators dug out of the ground or tree and then ate out the contents. In all probability the infestation will be reduced again by the activity of these predators.

Tennessee. G. M. Bentley (August): The peach borer is very abundant in Knox County; plentiful in old orchards and scattered seedlings.

#### PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

South Carolina. W. C. Neetles (August 21): The plum curculio is doing less damage to peaches this season than usual.

Georgia. O. I. Snapp (August 21): The entire peach crop at Fort Valley was harvested with an infestation less than that of an average year. This was due to delayed emergence of first-generation adults from the soil in peach orchards as a result of dry weather in May and June. A few second-generation eggs were deposited as long as there were peaches in the orchards, but the majority of the new beetles will go into hibernation without having deposited any eggs this year. Therefore, oviposition in 1934 is expected to be heavier than it would have been had the first-generation adults deposited a part of their eggs in 1933.

Ohio. E. W. Mendenhall (August 24): The plum curculio is very abundant on plum.

Wisconsin. C. L. Fluke (July 25): The plum curculio is very abundant; there is a very heavy infestation in Richland County.

Arkansas. P. D. Sanders (August): Three curculio emergence cages, located in Howard, Pike, and Hempstead Counties in southern Arkansas, showed that the peak of first-brood adults emerged from the soil between June 12 and 20. Since the bulk of the commercial peach crop was not harvested until late in July, a second brood occurred. The extremely dry weather <sup>that</sup> prevailed while the insects were in the soil and a thorough-going control program were apparently responsible for the slight damage this year.



CHERRY

CHERRY FRUIT FLY (Rhagoletis cinrulata Loew)

Oregon. S. C. Jones (July 25): The cherry fruit fly began emerging June 16; the peak was reached July 11. First maggots were found in Royal Ann cherries on July 6, at Macleay, in unsprayed plots. First full-grown maggots were found in a commercial orchard at Springfield on July 12 in Waterhouse cherries. First pupae were formed July 20 at Macleay. (August 25): The cherry fruit fly, was still emerging from ground August 24 at Rickreall. Cherries still on trees heavily infested with maggots.

A SCALLOP SHELL MOTH (Calocalpe undulata L.)

Massachusetts. A. I. Bourne (August 22): The last week in July there was discovered a considerable area in Plymouth County, particularly in the vicinity of Middleboro, where wild cherries were well-nigh defoliated by the cherry scallop shell moth. In many cases the trees had practically no green foliage left and were entirely covered by the peculiarly rolled and webbed leaves. In many cases these injured leaves had fallen and the trees were nearly as bare as during the dormant season.

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Indiana. J. J. Davis (August 29): Shot-hole borer was destructive to plum and cherry at West Baden and Cicero according to reports received the middle of the month.

ANTS (Formicidae)

Utah. G. F. Knowlton (August 24): Ants appear to have been responsible for killing a number of young cherry trees at Sandy, having made their nests around the bases of the trees. They are on the leaves in large numbers, attending the black cherry aphids which have severely curled most of the leaves on the trees still alive.

PLUM

PLUM GOUGER (Anthonomus scutellaris Lec.)

Minnesota. A. G. Ruggles (August 21): The plum gouger, heretofore only rarely seen, has been sent in a number of times from St. Paul, Mankato, and other southern points in the State.

GRAPE

GRAPE LEAFHOPPERS (Erythroneura spp.)

Kentucky. M. L. Didlake (August 25): The grape leafhopper (E. comes Say) is very abundant in eastern Kentucky.

Michigan. R. H. Pettit (August 23): In Berrien and Van Buren Counties there is a very serious attack by grape leafhoppers, in this case E. tricineta var. cymbium McAtee. Grapes that have been well sprayed are still badly attacked.

Minnesota. A. G. Ruggles (August 21): E. comes vitifex Fitch is fairly abundant on grape near Minneapolis and St. Paul.

Nebraska. M. H. Swenk (August 21): Reports of the grape leafhopper E. comes injuring grapevines were received from Lancaster, Cedar, Pierce, and Antelope Counties. This pest was reported also working on woodbine vines in Redwillow County.

Utah. G. F. Knowlton (August 1): Leafhoppers E. comes ziczac Walsh are causing serious injury to Virginia creepers in all sections of Logan, and damage has been noted in many parts of northern Utah. (August 5): A species of Erythroneura is seriously damaging Virginia creeper and Engleman's ivy at Riverheights, Hyrum, Logan, Millville, and Salt Lake City. Many of the leaves have already dried up and fallen, owing to the leafhopper attack. (August 9): Grape leafhoppers are seriously damaging grapes at Roy. Most of the older leaves are badly spotted and yellowed. Some leaves are falling off. (August 18): Grape leafhopper damage continues to become more severe in many parts of northern Utah, particularly on Virginia creeper. In Logan from 10 to 75 per cent of the leaves of nearly all Virginia creepers are now brown and falling off. Damage to grapes is less severe, but increasing in several localities, including Brigham, Ogden, and Salt Lake City.

GRAPE LEAF FOLDER (Desmia funeralis Hbn.)

Missouri. L. Haseman (August 23): The grape leaf folder has done quite a little damage during the month at Columbia.

GRAPE BERRY MOTH (Polychrosis viteana Clem.)

Michigan. R. H. Pettit (August 23): There is a serious attack by the grape berry moth. Enormous numbers of eggs have been laid and are now beginning to hatch. We are just beginning to pick Moore's Early grapes; in fact, many growers in Berrien County began picking yesterday and are now looking forward to enormous numbers of the moth on the Concord and other later varieties.

PECAN

PECAN WEEVIL (Curculio caryae Horn)

Georgia. T. L. Bissell (August 14): Adults of the pecan weevil were found in considerable numbers at Strouds Crossroads on July 22, 2 weeks earlier than in 1932. At Experiment, activity began about 1 week earlier than in 1932.

AN APHID (Monellia costalis Fitch)

Georgia. T. L. Bissell (August 14): The black-margined aphid is more abundant on pecan for this time of year than in several years, at Milner and Strouds Crossroads. Pecan trees have excessive quantities of honeydew. In one place honeydew was conspicuous on a dirt road which was overhung by pecan limbs. In the Experiment section the species is usually most abundant in May and again in September or October.

WALNUT CATERPILLAR (Datana integerrima G. & R.)

Ohio. N. F. Howard (August 29): The walnut caterpillar has been moderately abundant, but not so abundant and injurious as it was in 1932.

Michigan. E. I. McDaniel (August 9): The walnut datana has been reported from all over the State as being plentiful on walnut trees, many of which has been defoliated. It appears to be particularly plentiful this year.

Mississippi. C. Lyle and assistants (August): The walnut caterpillar and its injury to pecan trees are more noticeable this year than during the past several years. Serious defoliation of pecan trees was observed in Harrison County. This insect is also abundant at Ocean Springs, Jackson County.

HICKORY HORNED DEVIL (Citheronia regalis Fab.)

Mississippi. C. Lyle (August 23): Larvae have attracted attention in various sections recently, specimens collected in pecan orchards having been received from Jones, Perry, and Pike Counties.

CITRUS

CITRUS WHITEFLY (Dialeurodes citri Riley and How.)

Florida. J. R. Watson (August 24): The citrus whitefly is unusually abundant this year. Abnormally low rainfall for August in some sections has delayed the multiplication of the entomogenous fungi.

E. N. Berger and G. B. Morrill (August 23): This species and D. citrifolii Morg. are moderately to very abundant in various localities. Some citrus plantings are almost free of whiteflies, thanks to effective growths of fungi in such plantings during 1932.

Mississippi. G. L. Bond (August 19): The citrus whitefly is very abundant around shrubbery at Lexington, Durant, and Greenwood.

H. Gladney (August 16): The citrus whitefly is very abundant on citrus at Ocean Springs.

LONG-TAILED MEALYBUG (Pseudococcus adonidum L.)

California. H. J. Ryan (August 22): The long-tailed mealybug P. lonispinus, was found severely infesting a few citrus orchards near Whittier. Occasionally severe infestations in greenhouses and on ornamentals have been known in southern California for 15 years or more, but this mealybug has never before been found in great numbers on citrus. Associated in the Rivera section with Baker's mealybug, P. maritimus Ehrh., and the citrophilus mealybug, P. gahani Green, both of which are thoroughly under control this season by predators and parasites, the infestation by the long-tailed mealybug has so far been found only in some 10 or 12 groves where spraying, instead of fumigation, was applied last season for scale control.



TRUCK - CROP INSECTS

FALSE CHINCH BUG (Nysius ericae Schill.)

Minnesota. A. G. Ruggles (August 31): Several reports of damage to flax in the southern part of the State have been received.

Iowa. H. E. Jaques (August 23): False chinch bugs attracted considerable attention but actually caused relatively small damage. The bugs are very abundant in Dickinson County and moderately abundant in Emmett, Palo Alto, Kossuth, and Hamilton Counties.

Nevada. G. G. Schweis (August 21): Migration of false chinch bugs caused much annoyance in eastern Nevada. Bugs invaded a theatre at Wells, necessitating the closing of the theatre until the horde had passed.

SOUTHERN GREEN STINK BUG (Nezara viridula L.)

Mississippi. C. Lyle (August 23): On July 31 a correspondent at Hattiesburg, Forrest County, sent to this office specimens with the following statement: "Have just noticed them. Last fall pea vines looked just right to bear a good crop, but it seemed as though insects ate or sucked the buds before they bloomed. Nobody's peas around here bore any last fall."

BLISTER BEETLES (Meloidae)

Tennessee. G. M. Bentley (August 15): Blister beetles, Epicauta vittata Fab. and E. pennsylvanica DeG. are moderately abundant. They are reported as damaging late potatoes in western Tennessee.

Nebraska. M. E. Swenk (July 20 to August 21): From Dawson County a report was received of blister beetles (Macrobasis immaculata Say and E. cinerea Forst.) damaging potato plants. M. immaculata and E. maculata Say were reported from Chase County.

Montana. A. L. Strand (August 19): Blister beetles (E. maculata, Lytta sphaerica Say, L. nuttalli Say, and L. cyanipennis Lec.) were very abundant in gardens and shelter-belt plantings.

NORTHERN MOLE CRICKET (Gryllotalpa hexadactyla Perty)

Nebraska. M. E. Swenk (August 21): Specimens of the mole cricket were sent in from Johnson, Dodge, Colfax, and Sheridan Counties during the period from July 20 to August 21.

COMMON RED SPIDER (Tetranychus telarius L.)

Ohio. N. F. Howard (August 29): Red spider has been abundant on beans due to the hot dry weather.

Colorado. G. M. List (August 24): The common red spider or two-spotted mite is very common and severe injury is being done to raspberries and cherries in northern Colorado. In some cases beans and similar crops are also being seriously injured.

POTATO AND TOMATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Delaware. D. MacCreary (August 23): The Colorado potato beetle is moderately abundant, causing injury throughout the State.

Georgia. J. B. Gill (August 22): The Colorado potato beetle is moderately abundant at Tifton, on horse nettle in fields.

Ohio. E. W. Mendenhall (August 24): The Colorado potato beetle is very abundant on potatoes.

Minnesota. A. G. Ruggles (August 21): The Colorado potato beetle is moderately abundant.

Iowa. H. T. Jaques (August): The Colorado potato beetle is moderately abundant over the western and southeastern parts of the State.

Tennessee. G. M. Bentley (August 15): The Colorado potato beetle is moderately abundant on late potatoes in western Tennessee.

Mississippi. L. J. Goodgame (August 15): The Colorado potato beetle is very abundant in Monroe County.

Nebraska. M. H. Swenk (July 20 to August 21): The Colorado potato beetle is moderately abundant in western Nebraska. A Hitchcock County correspondent reported the beetle the latter part of July.

Idaho. R. W. Haegeler (July 27): The Colorado potato beetle is moderately abundant in Canyon County.

Utah. G. T. Knowlton (August 19): The Colorado potato beetle is scarce in the Ogden area. A few adults are present, "slugs" are very scarce now.

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

Connecticut. M. Turner (August 19): An increased acreage of potatoes resulted in smaller apparent damage in some localities. Some fields are heavily infested, in spite of thorough spraying, in the central part of the State.

POTATO STALK BORER (Trichobaris trinotata Say).

Nebraska. M. H. Swenk (August 21): The potato stalk weevil was reported from Dakota County the first week in August.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

Vermont. H. L. Bailey (August 21): The potato leafhopper is moderately abundant in general.

Connecticut. M. Turner (August 19): E. fabae is abundant on beans, causing some damage to susceptible varieties, and very abundant on dahlias. Unsprayed potatoes are seriously damaged.

W. E. Britton (August 24): The potato leafhopper is very abundant.

West Virginia. L. M. Peairs (August 22): The potato leafhopper is moderately abundant generally.

Ohio. T. H. Parks (August 24): The potato leafhopper is very abundant.

Indiana. J. J. Davis (August 29): The potato leafhopper is reported abundant at LaPorte, July 31. According to G. F. Gould this species was more abundant than usual on potato in northern Indiana. What we believe to be the same species was unusually abundant in central Indiana on beans.

Wisconsin. E. L. Chambers (August): The potato leafhopper is very abundant throughout the State.

Minnesota. A. G. Ruggles (August 21): The potato leafhopper is very abundant.

Iowa. H. E. Jaques (August 23): The potato leafhopper is a serious pest this year.

#### A LEAFHOPPER (Empoasca filamenta De L.)

Utah. G. F. Knowlton (August 9): The Rocky Mountain potato leafhopper, E. filamenta, is generally abundant in potato fields of northern Utah, causing spotting of the potato leaves. Moderate damage has been noted in most fields examined.

#### TOMATO PSYLLID (Paratrioza cockerelli Sulc)

Utah. G. F. Knowlton (August 9): Some psyllid yellows damage has resulted to late potatoes as well as more general damage to early potatoes, in parts of northern Utah, in spite of the hot season.

Colorado. G. M. List (August 24): The tomato psyllid is not so numerous as a year ago, although in some sections there is a heavy loss to potatoes from the psyllid yellows. In the Mesa County early potato growing section the harvest was not over 25 per cent of a normal crop, the yellows being the principal cause for this reduction. In the San Luis Valley and in other high mountain producing areas the infestation is quite heavy on late potatoes, but the loss will not be so great as it was a year ago. In Weld and Morgan Counties, where the crop was reduced almost 75 per cent last year, the yield will be almost normal this year, except on some of the early fields.

New Mexico. J. R. Myer (July 24): The potato psyllid is moderately abundant in all potato-growing sections.

#### TOMATO WORM (Phlegethontius sexta Johan.)

Maine. H. B. Peirson (August 10): Reports of the larvae of the tomato hornworm in southern Maine are common.

Virginia. H. G. Glover (August 25): The tomato hornworm has been very abundant in several fields in the Western Branch section of the Norfolk truck-crop area.



Utah. G. F. Knowlton (July 27): Tomato worms are damaging tomato plants at Smithfield.

VARIEGATED CUTWORM (Lycophotia margaritosa saucia Hbn.)

Colorado. G. M. List (August 24): The variegated cutworm is unusually abundant in many sections of the eastern half of the State, doing great deal of injury to tomatoes by eating into the fruit, and in some cases injuring cabbage and many other garden crops. It is very abundant in alfalfa.

POMACE FLIES (Drosophila spp.)

Delaware. D. MacCreary (August 22): The vinegar fly is infesting ripe canning tomatoes in southern Delaware.

Delaware, Maryland, and Virginia. P. N. Annand (August): Tomatoes arriving at packing houses are infested with larvae. This condition is prevalent throughout the tri-State (Maryland, New Jersey, and Delaware) packing area. (Abstract, P. D. S.)

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

General. W. F. Howard (August 29): Throughout Kentucky, Tennessee, Virginia, West Virginia and the eastern portion of the Carolinas the Mexican bean beetle has been less destructive than a year ago. While early beans were injured to a considerable extent in some instances, in other instances beans were picked from untreated plantings. Late plantings, while injured in some cases to a considerable extent, should bear a crop of beans.

New Hampshire. L. C. Glover (August 23): The Mexican bean beetle is very abundant. I took an overwintering adult from a bean plant on August 3. Large numbers of the first generation adults were emerging during the first week in August.

Rhode Island. A. T. Stone (August 21): The Mexican bean beetle is very abundant.

Massachusetts. A. I. Bourne (August 22): The Mexican bean beetle is generally present throughout the State. In most areas, particularly in the western and southern parts of the State where no particular efforts had been made to control the pest, it did a considerable amount of defoliation. In commercial plantings, however, where control measures were promptly undertaken, the pest was satisfactorily checked.

Connecticut. W. E. Britton (August 24): The Mexican bean beetle is very abundant.

New Jersey. B. F. Driggers, R. C. Furdette, and C. C. Hamilton (August 25): The Mexican bean beetle is very abundant.

New York. P. J. Parrott (August 23): The Mexican bean beetle is moderately abundant in the southwestern part of the State.

Delaware. D. MacCreary (August 25): The Mexican bean beetle is very abundant and is causing considerable injury in all parts of the State.

Maryland. H. S. McConnell (August 22): The Mexican bean beetle is very abundant.

North Carolina. W. A. Thomas (August 10): This insect has been much less abundant at Chadbourn this season than last year; in some cases it has not become necessary to treat beans for the control of this insect.

Georgia. O. I. Snapp (July 22): The Mexican bean beetle is moderately abundant at Fort Valley and has caused considerable damage to lima beans.

W. H. Clarke (August 10): Serious damage has been observed on bush beans and lima beans in home gardens at Thomaston.

Ohio. T. W. Parks (August 24): The Mexican bean beetle is very abundant.

Indiana. J. J. Davis (August 29): The Mexican bean beetle has been generally common throughout the State. It became rather scarce about mid-season following the hot, dry weather, but at the present time is again quite abundant on late beans.

Kentucky. M. L. Didlake (August 25): The Mexican bean beetle is very abundant, but control methods are effective where used as recommended.

Tennessee. G. H. Bentley (August 15): The Mexican bean beetle is moderately abundant in central Tennessee and scarce in the eastern and western parts of the State. The insect does not seem to be generally distributed.

Mississippi. C. Lyle (August 23): Heavy damage to garden beans was reported on August 7 from Wallerville, Union County, and Hickory Flat, Benton County.

Colorado. G. H. List (August 24): The Mexican bean beetle appeared later than usual from hibernation and many producers got the idea that the injury would not be great. As a result the control was not as general as usual and the loss is proving to be quite heavy in many sections.

New Mexico. J. R. Ever (July 24): The Mexican bean beetle is very abundant in all bean-growing districts.

#### BEAN LEAF ROLLER (Goniurus proteus L.)

Florida. F. S. Chamberlin (August 9): The bean leaf roller is very abundant in Gadsden County.

#### LIMA BEAN VINE BORER (Monoptilota pergratialis Hulst)

North Carolina. W. A. Thomas (July 28): For the past few years the lima bean vine borer has not been present to any extent in the Chadbourn area, but during July pole limas were heavily infested. The attack does not seem to have seriously handicapped the plant's development.

#### TAILED BLUE BUTTERFLY: (Everes comyntas Godt.)

New York. C. R. Crosby (July 29): Specimens were received from Greene County, where they were attacking bean pods.

COTTON SQUARE BORER (Strymon melinus Hbn.)

Massachusetts. A. I. Bourne (August 22): Numerous complaints were received during early August, from gardeners, of the presence of the gray hair streak, the larvae of which were working in the developing beans.

BEAN APHID (Aphis rumicis L.)

Oregon. D. C. Mote (August 25): The bean aphid is doing more injury than usual in Willamette Valley. (B. G. Thompson)

CABBAGE

IMPORTED CABBAGE WORM (Ascia rapae L.)

New York. P. J. Parrott (August 23): Cabbage worms are very abundant.

Ohio. N. F. Howard (August 29): The imported cabbage worm is numerous and injurious in the vicinity of Columbus.

Indiana. J. J. Davis (August 29): Reported as abundant on cabbage at Princeton, August 14.

Iowa. H. E. Jaques (August): The cabbage worm is moderately abundant in the western part of the State.

Nebraska. M. H. Swenk (August 21): The imported cabbage worm was reported from Antelope County. A report was also received from Lancaster County the second week in August.

Utah. G. F. Knowlton (August 9): Cabbage worms have riddled one patch of cabbage at Roy. Damage to cabbage and related plants is general in northern Utah.

CABBAGE WEBWORM (Hellula undalis Fab.)

North Carolina. W. A. Thomas (August 1): This insect was seldom observed this season before late July at Chadbourn. With the planting of cruciferous crops, the population seemed to increase very rapidly, and at the present time large parts of the summer plantings have already been destroyed. Collards are being attacked rather heavily.

HARLEQUIN BUG (Murgantia histrionica Falm)

Maryland. H. S. McConnell (August 22): The harlequin bug is generally present.

Indiana. J. J. Davis (August 29): Harlequin cabbage bug reported destroying cabbage at Pekin, August 24.

Kentucky. M. L. Didlake (August 25): The harlequin bugs are very abundant at Beech Grove and Lexington.

Mississippi. C. Lyle (August 23): Severe injury to cabbage, collards, cauliflower, mustard, etc., by adults and nymphs was reported from Water Valley, Yalobusha County, on August 11. A correspondent at Picters, Holmes County,



indicated that these insects were ruining cabbage, mustard, etc., in his garden on August 18.

CABBAGE APHID (Brevicoryne brassicae L.)

North Dakota. J. A. Munro (August 21): Aphids are very abundant at Kempton and Easby on cabbage plants.

Utah. G. F. Knowlton (August 9): The cabbage aphid is damaging cabbage at Roy and Logan, and in other localities.

MELONS

MELON WORM (Diaphania hyalinata L.)

North Carolina. W. A. Thomas (August 4): The melon worm was observed at Chadbourn for the first time this season on August 4, destroying cantaloupes, squash, and cucumbers.

PICKLE WORM (Diaphania nitidalis Stoll)

Kentucky. M. L. Didlake (August 25): The pickle worm is moderately abundant on melons and squash at Mayfield and Lexington.

Missouri. L. Haseman (August 23): We have received a few scattered complaints about the pickle worm, which is not serious at Columbia.

Mississippi. C. Lyle and assistants (August): On August 12 the pickle worm was reported as having been destructive in Grenada and Yalobusha Counties for some time. On August 7 it was observed in large numbers in a field of cantaloupes in Hinds County. Practically the entire crop was infested. The same insect was damaging cantaloupes very seriously at Ridgeland in Madison County on August 14. Complaints of injury to cantaloupes and cucumbers have been received recently from Hinds, Lowndes, and Madison Counties.

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Vermont. H. L. Bailey (August 21): The striped cucumber beetle is very abundant in general.

Minnesota. A. G. Ruggles (August 21): The striped cucumber beetle is very abundant.

Iowa. E. E. Jaques (August 23): The striped cucumber beetle is rather abundant throughout western Iowa.

Nebraska. M. H. Swenk (August 21): The striped cucumber beetle is very abundant in eastern and central Nebraska.

Kansas. H. R. Bryson (August 21): Larvae of the striped cucumber beetle were found injuring the roots of watermelon at Osage City July 31. Beetles have been very destructive to cucurbits during the summer at Manhattan.

MELON APHID (Aphis gossypii Glov.)

Maryland. W. N. Cory (August 22): Melon aphids are attacking cantaloupes on the Eastern Shore.

Indiana. J. J. Davis (August 29): The melon aphid has been unusually destructive to melons and cucumbers throughout the State. In the extensive melon section of Decker, Knox County, it is reported that two-thirds of the melons have been destroyed.

Iowa. C. J. Drake (August 28): The melon aphid is extremely abundant throughout Iowa, doing serious damage to cucumbers, cantaloupes, and watermelons. For the past three years the melon aphid has been extremely abundant during the latter part of the summer.

Nebraska. M. H. Swenk (July 20 to August 21): Numerous complaints of the melon aphid working on cucumbers and other cucurbits were received from Sarpy, Dodge, Lancaster, Wayne, Custer, and Hitchcock Counties during the period here covered.

Kansas. H. B. Bryson (August 21): Melon aphids have been unusually destructive to cucurbits over the State. The dry weather has contributed to the increased injury resulting from the attack of this pest. From July 27 to August 20, reports of injury were received from Larned, Humboldt, Phillipsburg, Langdon, Burden, Stafford, and Manhattan.

SQUASH BUG (Anasa tristis DeG.)

Vermont. H. L. Bailey (August 21): Squash bugs are more than usually abundant throughout the State.

Maryland. H. S. McConnell. (August 22): Squash bugs are attacking late cucumbers and squash in general.

Indiana. J. J. Davis (August 29): The squash bug has been very abundant in many parts of the State attacking squash, pumpkin, melon, and cucumber.

Missouri. L. Haseman (August 23): Squash bugs have been on the increase at Columbia since August 15.

Nebraska. M. H. Swenk (July 20 to August 21): Many complaints of the squash bug attacking squash and pumpkin vines were received during the period here covered. These reports came from Lancaster, Wayne, Platte, Antelope, Howard, Custer, Garden, and Morrill Counties.

Utah. G. F. Knowlton (August 5): Squash bugs have <sup>nearly</sup> killed all of the squash plants in one garden at Riverheights. Only a few plants were affected and one killed in the neighbor's squash patch adjoining. (August 24): Squash bugs have killed most of the squash vines in one field at Sandy. They have almost caused the abandonment of squash growing in this area farmers report. Damage was also noted at Provo.

Oregon. D. C. Mote (August 25): The squash bug was found damaging cucumber and squash plants near Corvallis. (B. G. Thompson)

SQUASH BORER (Melittia satyriniformis Hbn.)

Ohio. T. H. Parks (August 10): The squash vine borer was destructive to squashes and pumpkins in Erie County during early August.

Kentucky. M. L. Didlake (August 25): The squash borer is moderately abundant at Alexandria and Lexington.

Michigan. E. I. McDaniel (August 10): The squash vine borer is appearing all over the State. Specimens have been sent in from Grand Rapids, Cassopolis, Bloomington, Marshall, Bangor, Battle Creek, Muskegon, Farwell, and Ionia.

Minnesota. A. G. Ruggles (August 21): The squash borer has been sent in more often than usual this year.

Nebraska. M. H. Swenk (August 21): According to reports received from Lancaster, Saunders, Platte, Nuckolls, Howard, and Custer Counties, the squash vine borer was damaging squash and cucumber plants in the counties mentioned.

Kansas. E. R. Bryson (August 21): The squash vine borer has been unusually destructive at Manhattan this year, possibly because insufficient soil moisture has retarded the growth of the plants.

SQUASH BEETLE (Epilachna borealis Fab.)

Connecticut. M. P. Zappe (August 24): E. borealis appears to be more abundant than for several years.

CELERY

GREENHOUSE LEAF TIER (Phlyctaenia rubigalis Guen.)

Michigan. R. E. Pettit (July 27): The celery leaf tier is present in sufficient numbers to be fairly destructive to celery.

A PYRALID (Nomophila noctuella D. & S.)

Michigan. R. E. Pettit (July 27): The celery stalk worm has been received from Muskegon and Kalamazoo, where it is reported as doing considerable damage to celery.

ONION

ONION THRIPS (Thrips tabaci Lind.)

Massachusetts. A. I. Bourne (August 22): The onion thrips was much more abundant than has been the case for several years, especially in the onion-growing section of the Connecticut Valley. Very high temperatures occurring during late June and throughout July, accompanied by drought conditions, proved favorable for the rapid increase and spread of this insect, and in many fields serious injury resulted from the combined effects of the dry weather and the injury by the thrips.



Connecticut. N. Turner (August 19): Thrips migrating from dying onions ruined two acres of late cauliflower in the central part of the State.

Ohio. T. W. Parks (August 18): A severe infestation of onion thrips on cabbage has occurred in muck in which onions had been grown in Medina County.

Indiana. J. J. Davis (August 29): Onion thrips destroyed 30 acres of seedling carrots at Fort Wayne the last of July. The same species was reported damaging onions at Silver Lake, August 12.

Utah. G. F. Knowlton (August 5): The onion thrips is damaging onions in Davis County. Damage is only moderate at Plain City, in Weber County.

#### SWEETPOTATO

##### SWEETPOTATO SAWFLY (Sterictiphora cellularis Say)

Mississippi. C. Lyle (August 23): On August 12 a correspondent at Vicksburg, Warren County, sent larvae of sawflies, identified by J. M. Langston as S. cellularis, to this office with a report that they were abundant on sweet-potato plants.

#### STRAWBERRY

##### STRAWBERRY LEAF ROLLER (Ancylis comptana Froel.)

Indiana. J. J. Davis (August 29): Strawberry leafroller was reported abundant on strawberry at Akron, July 25, and Washington, August 1.

Wisconsin. C. L. Fluke (July 25): The strawberry leaf roller is moderately abundant in southeastern counties.

Utah. G. F. Knowlton (August 9): First-generation strawberry leaf rollers are seriously damaging strawberries at Roy, and second-generation worms are causing slight damage.

##### STRAWBERRY CROWN MOTH (Aegeria rutilans Hy. Edw.)

Oregon. D. C. Mote (August 25): Larvae are entering the crowns of strawberry plants. Some of the larvae are good size, and already within crown of plant. Others much smaller and mining in bark and cambium of crown.

#### SUGAR BEETS

##### BEET LEAFHOPPER (Eutettix tenellus Bak.)

New Mexico. J. F. Fier (July 24): Beet leafhoppers are moderately abundant over all beet-growing sections.

##### BEET WEBWORM (Lorostege sticticalis L.)

Montana. A. L. Strand (August 19): The threatened widespread outbreak of this species did not materialize. There were plenty of moths, but practically no larvae showed up.

Utah. G. F. Knowlton (August 5): Sugar company spray equipment is being used long hours each day against the sugar-beet webworm over most of northern Davis County.

### TOBACCO

#### TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

Massachusetts. A. I. Bourne (August 22): Flea beetles were present in unusual numbers during middle and late July and were the cause of considerable injury to tobacco in the Connecticut Valley.

Mississippi. F. A. Smith (August 19): The tobacco flea beetle is very abundant in Tunica, DeSoto, Tate, Quitman, and Panola Counties.

### FOREST AND SHADE TREE INSECTS

#### FALL WEBWORM (Hyphantria cunea Drury)

New Hampshire. L. C. Glover (August 23): The fall webworm is apparently less abundant now than it was at this time last year.

Massachusetts. A. I. Bourne (August 22): The fall webworm was somewhat later than normal in making its appearance. At the present time, however, it has become quite conspicuous, although the infestation is much less intensive than is normally the case.

Connecticut. R. B. Friend (August 24): The fall webworm is abundant throughout the State, attacking various trees, particularly in the eastern part of the State. (M.P.Z.)

Pennsylvania. J. N. Knull (August 15): The fall webworm is very abundant on various species of forest trees in Dauphin County.

Maryland. E. M. Cory (August 22): The fall webworm is attacking Osage orange and boxelder in Queen Annes County.

Ohio. W. F. Howard (August 29): The fall webworm has been present, but not nearly so abundant as it was in 1932.

Indiana. J. J. Davis (August 29): The fall webworm is common throughout the State, attacking wild and ornamental shrubs, shade trees, and unsprayed apples.

Tennessee. G. M. Bentley (August): The fall webworm is moderately abundant in eastern and middle Tennessee.

#### A FALL WEBWORM (Hyphantria textor Harr.)

Maine. H. B. Peirson (August 10): The fall webworm, H. textor, is general over the State and moderately abundant on apple, birch, elm, and willow.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

- Maryland. P. D. Sanders (August 19): This insect has been very destructive to conifers used for shrubs on Deals' Island this year. Many valuable specimen shrubs have been seriously damaged, including arborvitae, etc.
- West Virginia. L. M. Peairs (August 22): Many reports of bagworms have been received.
- South Carolina. F. Sherman (August 21): The evergreen bagworm is more plentiful than usual at Clemson College and has been sent in from several localities.
- Ohio. T. E. Parks (July 24): Larvae are very serious on arborvitae in Columbus and central Ohio.
- Kentucky. M. L. Didlake (August 25): The bagworm is very abundant on evergreens at Jenkins, Flemingsburg, Mogg, Fort Knox, Whitesburg, and Lexington.
- Mississippi. C. Lyle (August 23): Bagworms have attracted considerable attention during the past month, heavy infestations on cedars, etc., having been reported from Lafayette, Union, Panola, and Oktibbeha Counties.

GYPSY MOTH (Porthetria dispar L.)

- Rhode Island. A. E. Stene (August 21): The gypsy moth was unusually abundant this year in some sections of the State. Total stripping in some places led to starvation of caterpillars and development of wilt disease. In such places few egg clusters are found. In other places, however, there are plenty of masses promising heavy infestation next year unless parasites take a hand.

WHITE-MARKED TUSSOCK MOTH (Hemerocampa leucostigma S. and A.)

- Ohio. E. W. Mendenhall (August 24): The white-marked tussock moth is very bad on elm trees in Columbus and central Ohio.

YELLOW-NECKED CATERPILLAR (Datana ministra Drury)

- Minnesota. A. G. Ruggles (August 21): The caterpillars are fairly abundant around Minneapolis and St. Paul.
- Kansas. H. R. Bryson (August 21): Datanas are quite numerous on unsprayed apple trees at Manhattan.

BASSWOOD

A CHRYSOMELID (Baliosus ruber Web.)

- Michigan. R. H. Pettit (July 27): We have recently received specimens that were feeding on basswood and puncturing the leaves quite freely at Paw Paw and Kalamazoo.

BIRCH

BIRCH LEAF MINER (Fenusa pumila Klug)

- Maine. H. B. Peirson (August 2): Birch leaf-mining sawfly is reported as abundant over the State.



Connecticut. R. B. Friend (August 24): This leaf miner is very abundant on gray birch throughout the State. It has been common in the State for the last 10 years, and no appreciable decline in its abundance has occurred during that time.

BRONZE BIRCH BORER (Agrilus anxius Gory)

Iowa. C. J. Drake (August 28): The bronze-headed birch borer has been reported at Fort Dodge and a number of other cities in central Iowa. This insect is slowly spreading from city to city through the State.

BIRCH SKELETONIZER (Bucculatrix canadensisella Chamb.)

Maine. H. B. Peirson (August 21): A very heavy infestation of the birch leaf skeletonizer was reported August 18 in the Dead River region.

CATALPA

CATALPA SPHINX (Ceratomia catalpae Bdv.)

Florida. J. R. Watson (August 24): The work of the catalpa sphinx was much in evidence.

Ohio. E. W. Mendenhall (August 24): The catalpa sphinx is very bad, especially on Catalpa bungei in Columbus and south-central Ohio.

Indiana. J. J. Davis (August 29): The catalpa caterpillar was reported abundant at Plymouth, August 16.

Illinois. W. P. Flint (August 22): The catalpa sphinx moth is about normally abundant in central Illinois. Larvae of the second brood are nearly full grown.

Kentucky. H. L. Didlake (August 25): The catalpa sphinx is very abundant at Lexington; many are parasitized.

ELM

ELM LEAF BEETLE (Galerucella xanthomelaena Schr.)

Maine. H. B. Peirson (August 21): A light infestation of the elm leaf beetle was reported August 8 at Wayne.

New Hampshire. J. V. Schaffner, jr. (July 24): Though the infestation is quite severe in the vicinity of Stratham, in Rockingham County, it is not so bad as it was in 1932. At Keene, in Cheshire County, the infestation is reported as medium; the elm trees in the city have been sprayed.

A BARK BEETLE (Scolytus multistriatus Marsham)

General:

S. A. Rehner (August 25): The smaller elm beetle (S. multistriatus) is well established along the Atlantic Coast from Boston to Philadelphia. Although normally a secondary pest of elm, its importance is emphasized since it may, like its European relative (S. scolytus Fab.) transmit the Dutch elm disease. The Bureau of Entomology has, in cooperation with the Bureau of Plant Industry, initiated the study of this pest and its possible relation to this dangerous disease recently discovered in parts of New Jersey and New York.

Massachusetts. J. V. Schaffner, jr. (July 24): Local outbreaks have been reported in Massachusetts from Bristol, Middlesex, Norfolk, and Plymouth Counties. As a whole, the infestation through this area seems to be on the decline, although some localities report more injury this year than in 1932. Spraying for this pest has been done by many cities and towns. Adults of the 1933 brood began issuing about July 17.

A. I. Bourne (August 22): The elm leaf beetle was present in considerable abundance and caused severe injury to foliage in some sections of the State.

Connecticut. W. T. Britton (August 24): There are many brown unsprayed trees throughout the State, although perhaps fewer than for the last two years. Late pupae are nearly all killed by a fungus, but the early ones produced plenty of adults.

Rhode Island. A. T. Stone (August 21): The elm leaf beetle is again abundant in many places but on the whole perhaps a little less so than last year.

Maryland. H. S. McConnell (August 22): The elm leaf beetle is very abundant on elms in general.

Ohio. T. W. Parks (August 21): An outbreak has appeared in the city of Columbus and extends over several city blocks. European elms are more seriously injured than the American elms.

Idaho. R. W. Haeghele (July 27): The elm leaf beetle is very abundant in Canyon County.

#### ELM LACEBUG (*Corythucha pallida ulmi* C. & D.)

Connecticut and New York. E. P. Felt (August 11): The elm lacebug continues abundantly on American elms in the vicinity of Kent, Conn., and presumably northward, as in previous years, to Canaan. August 25): This lacebug is abundant on American elms at Brainard, N. Y., and has been present there year after year, to my personal knowledge, for a decade or more.

#### FIR

##### AN APHID (*Dreyfusia piceae* Ratz.)

Maine. H. B. Peirson (August 2): The killing of fir trees by this insect continues heavy along the coast and in a few places inland.

#### HICKORY

##### A HICKORY BORER (*Goes pulcher* Hald.)

New York. E. P. Felt (August 11): The beautiful hickory borer is somewhat abundant and injurious to trees near Purchase.

#### CEDAR

##### SPRUCE MITE (*Paratetranychus uniunguis* Jacobi)

Michigan. E. I. McDaniel (August 19): The dry weather has resulted in the development of a serious attack of the spruce mite on white cedar. It is appearing locally over all the State. The latest report comes from Ludington.

MAPLE

AN APHID (Periphagus acerifolii Riley)

New York. W. E. Blauvelt (July 3): Specimens of badly infested cut-leaf maple trees have been received from Watertown and Samers.

FLAT-HEADED APPLE TREE BORER (Chrysobothris femorata Oliv.)

Indiana. J. J. Davis (August 29): This flat-headed borer has been very abundant in hard and Norway maples in many sections of the State. Specific authentic records have come during the past month from Alton, Knox, Lafayette, and Terre Haute.

OAK

TWO-LINED CHESTNUT BORER (Agrilus bilineatus Web.)

Iowa. C. J. Drake (August 28): The two-lined borer is extremely abundant in the northern half of Iowa. Thousands of oak trees have been killed this summer. In one of the State parks in the northern part of the State, approximately 10,000 trees have been killed this summer.

PINE

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

New York. E. P. Felt (August 11): The European pine shoot moth has caused very serious damage locally to red and Scotch pine in southern Westchester County.

NANTUCKET PINE SHOOT MOTH (Rhyacionia frustrana Scudd.)

New York. E. P. Felt (August 11): The Nantucket pine moth is well established in a planting of red pine near Croton Falls. Brown, injured tips, 3 or 4 inches long are common, in some cases 25 or more occurring upon individual trees.

Maryland. E. N. Cory (August 22): The eastern tip moth is injurious to longleaf pines in Worcester, Wicomico, and Caroline Counties, and possibly elsewhere.

Mississippi. C. Lyle (August 23): Severe injury to a young pine tree by larvae was reported from Indianola, Sunflower County, on August 5.

A PINE TIP MOTH (Tacosma gloriola Heinr.)

Connecticut and New York. E. P. Felt (August 11): The white pine shoot moth is well established in white pines in southern Westchester County, N. Y., and also in an area just north of Bridgeport, Conn. In each instance there may be some 20 or more affected shoots on trees, possibly 30 feet high.

A PINE TIP BEETLE (Pityophthorus pulicarius Zinn.)

New York. E. P. Felt (August 11): The pine tip beetle is very abundant on Austrian pine at Southampton, L. I. Many of the terminal shoots are brown and dying,



and even branches or parts of good sized trees are seriously weakened if not killed by the work of this insect. (Identified by M. W. Blackman.)

#### PINE NEEDLE SCALE (Chionaspis pinifoliae Fitch)

Nebraska. M. H. Swenk (July 20 to August 21): Reports of injury by the pine leaf scale were received from Douglas and Lancaster Counties.

#### A SCALE (Toumeyella pini King)

New York. W. E. Blauvelt (June 3): Badly infested twigs of red pine were received from Candor.

Mississippi. C. Lyle (August 23): A medium infestation of T. pini was observed on July 1 at Quitman, Clarke County. The scales were attended by fire ants.

#### POPLAR

#### A LEAF BEETLE (Lina lapponica L.)

Montana. A. L. Strand (August 19): Two varieties have been far more abundant than usual on poplar trees.

#### WESTERN GOLDSMITH BEETLE (Catalpa tau Wick.)

Arizona. C. D. Lebert (August 26): A heavy infestation of the goldsmith beetle is occurring on cottonwoods. Adults are being attracted to lights at night in great numbers.

#### GALL APHIDS (Tamphigus spp.)

Nebraska. M. H. Swenk (July 20 to August 21): A Cherry County correspondent reported poplar trees infested with the transverse petiole leaf gall (P. populicaulis Fitch) and the vagabond cottonwood gall (P. vagabundus Walsh)

#### SPRUCE

#### AN APHID (Gillettoa cooleri Gill.)

Connecticut. W. E. Britton (August 24): This insect, which forms terminal galls on the <sup>new</sup> growth of blue spruce, is common throughout the State. It was reported at New Haven, Middletown, Rockville, and Wethersfield.

Michigan. E. I. McDaniel (August 9): The sitka spruce gall, is established on blue spruce from nurseries at Birmingham and Pontiac. I believe this is the first record of the establishment of this species in the State, although records of intercepted shipments have been made heretofore. (August 10): G. cooleri was received today from Grand Rapids, where it is established on blue spruce.

#### EASTERN SPRUCE BEETLE (Dendroctonus piccaperda Hopk.)

Maine. H. B. Peirson (August 16): This beetle is very abundant, and a large outbreak is killing areas of spruce trees in the region north from Rangeley Lakes to the Chain of Lakes.

SYCAMORE

SYCAMORE LACEBUG (Corythucha ciliata (Saw.))

New England. E. P. Felt (August 11): The sycamore lacebug is very abundant, discoloring much of the sycamore foliage in southwestern New England.

TULIP TREE

TULIP TREE APHID (Illinoia liriiodendri Mon.)

Kentucky. M. L. Didlake (August 25): T. liriiodendri is moderately abundant on tulip poplar at Corbin and Southgate.

WILLOW

EUROPEAN WILLOW BEETLE (Flagiobora versicolora Leich.)

Massachusetts. J. V. Schaffner, jr. (July 24): There are severe infestations on willow all through eastern Massachusetts. Both adults and larvae are very abundant.

Connecticut. R. D. Tricnd (August 24): The beetle is abundant on willow throughout the State; specimens were received from Stratford and West Haven. (W.E.E.)

A PSYLLID (Trioza aurea Förster)

Utah. G. F. Knowlton (August 23): The psyllid damaging willows at Hooper has been determined by F. D. Klyver as the above species.

A WEEVIL (Orchestes sp.)

Massachusetts. A. I. Bourne (August 22): The work of Orchestes sp. on laurel-leaved willow was very conspicuous. It became very noticeable in late July as the result of the mining of the leaves. Since laurel-leaved willows are planted very extensively along the State highways, we were enabled to get a fairly accurate idea of the general prevalence of this insect through all sections of the State.

INSECTS AFFECTING GREENHOUSE

AND ORNAMENTAL PLANTS

EUROPEAN EARWIG (Forficula auricularia L.)

New York. C. R. Crosby (July 29): Specimens of this insect were received from Buffalo, where it had been attacking flowers, and from Rochester, where it had been infesting fence posts, young apple trees, house pillars, etc.

Oregon. D. C. Hote (August 25): The second generation Digonichacta setipennis Fall., a tachinid parasite of the European earwig, T. auricularia, is now emerging.

QUINCE LACEBUG (Corythucha cydoniae Fitch)

Mississippi. C. Lyle (August 23): On August 12 a correspondent at Jackson, Hinds County, sent us specimens with a report that one of her ornamental plants was heavily infested.

CHRYSANTHEMUM LACEBUG (Corythucha marmorata Uhl.)

Indiana. J. J. Davis (August 29): Chrysanthemum lacebugs were destructive to hardy scabiosa at Portland, July 22. What we identified as the same species was destructive to dahlia at South Bend, August 1.

A MEALYBUG (Pseudococcus sp.)

West Virginia. L. M. Peairs (August 22): Mealybugs are extremely numerous in Morgantown on catalpa, honeysuckle, spirea, and other plants. These occur in solid masses 2 inches wide about the bases of new growth on catalpa which have been headed back.

ALDER

ALDER FLEA BEETLE (Haltica binarivata Say)

Maine. H. B. Peirson (July 28): The alder flea beetle is abundant on alder at Brookton and Bailovsville.

WOOLLY ALDER AFHID (Prociphilus tessellatus Fitch)

Mississippi. J. P. Kisilanko (August 21): Infestations of Alnus sp. all along the streams in Stone and Forrest Counties are rather numerous.

CREPE MYRTLE

CREPE MYRTLE AFHID (Myzocallis kahawaluokalani Kirk.)

South Carolina. J. A. Berly (August 21): The crepe myrtle aphid has damaged crepe myrtle at Greenville.

DOGWOOD

DOGWOOD BORER (Oberea tripunctata Fab.)

Tennessee. G. M. Bentley (August): Larvae of the dogwood borer were sent in from Memphis, where they were working in twigs of Cornus florida.

EUONYMUS

EUONYMUS SCALE (Chionaspis euonymi Comst.)

Mississippi. C. Lyle (August 23): Euonymus japonica leaves and twigs showing a heavy infestation were received from Aberdeen, Monroe County, on August 10.



GLADIOLUS

GLADIOLUS THRIPS (Taeniothrips gladioli M. & S.)

Connecticut. B. H. Walden (August 24): Where corns were treated before planting there has been comparatively little injury, probably less than last year. A few plantings where corns were not treated have been seriously injured.

New York. F. M. Eastman (August 27): I have visited several gladiolus growers in Glens Falls and Plattsburg and find that thrips are not very abundant where corns were properly treated before planting.

North Dakota. J. A. Munro (August 21): A correspondent at New Rockford, Tody County, submitted specimens to this office on August 7 together with the report that the insects were numerous on his gladioli.

HONEYSUCKLE

A LEAF MINER (Platynota sp.)

Mississippi. M. M. High and K. L. Cockerhan (July 30): Around the middle of July an ornamental honeysuckle at Ocean Springs was found to be heavily infested with a leaf miner that was doing severe damage. Specimens were collected and the first adult emerged in the laboratory on July 30. (Det. A. Busck.)

IRIS

IRIS BORER (Macronoctua onusta Grote)

Michigan. R. E. Pettit (August 23): The iris borer is quite prevalent in iris this year at Michigan State College.

LILAC

LILAC BORER (Podosesia syringae Harr.)

Maryland. P. D. Sanders (August 15): Larvae of this species are seriously damaging lilacs in Hebron by tunnelling in branches and crowns.

Iowa. C. J. Drake (August 28): Larvae are extremely abundant; reported as doing serious damage to lilacs, and privet hedge at Fort Dodge, Davenport, Des Moines, Cedar Rapids, Mason City, and Ames.

MAGNOLIA

A LEAF-FOOTED BUG (Leptoglossus fulvicornis Westw.)

New York. E. F. Felt (August 11): Adults and young were taken on the leaves of Magnolia virginiana at Sterlington, Rockland County.

A SCALE (Toumeyella turgida Coll.)

Mississippi. C. Lyle (August 23): A purple magnolia at Quitman, Clarke County, was found to be moderately infested on July 1. The scales were attended by both fire ants and lion ants.

## ROSE

### ROSE STEM GIRDLER (Acrilus viridis L.)

Massachusetts. A. I. Bourne (August 22): The presence of the rose stem girdler was noted in Lenox in Berkshire County.

Illinois. C. L. Metcalf (August 29): The rose stem girdler is reported as very destructive to Rosa rugosa in a nursery at Northbrook. The insect at this date is in the larval stage and about one-half inch long. The infested canes show moderate swellings beneath which the stem is completely girdled causing the bark to die.

## WATERLILY

### WATERLILY APHID (Rhopalosiphum nymphaeae L.)

Nebraska. M. H. Swenk (August 21): Plant lice were reported attacking water-lilies in a pool in Saline County.

### A MOTH (Hydrocampa nymphaeata L.)

Maryland. P. D. Sanders (August 17): Larvae of the brown china marks moth were feeding on the leaves of both cultivated and wild waterlilies in injurious numbers in lily pools at Hebron.

## INSECTS ATTACKING MAN AND

## DOMESTIC ANIMALS

### MAN

#### MOSQUITOES (Culicinae)

Connecticut. N. Turner (August 19): Several complaints concerning Culex pipiens L. have been received. The breeding is largely due to abundant rainfall.

Maryland. F. D. Sanders (August 19): The salt-marsh mosquito, Aedes sollicitans Walk., has been unusually prevalent on Deals Island this week. An occasional A. cantator Coq. was observed.

Ohio. E. W. Mendenhall (August 25): Anopheles, the malaria-carrying mosquito, is increasing in Ohio. At least 18 cases of malaria are reported in the State and 4 cases in Columbus, which is an increase over last year.

Tennessee. G. M. Bentley (August): Mosquitoes are more numerous than usual throughout eastern and western Tennessee, and several cases of malaria have been reported.

Oregon. H. H. Stage (August 21): A rather sudden drop in temperature to 56° F. on August 4, accompanied by some wind and rain, is probably responsible for a sudden decrease in the numbers of Aedes mosquitoes in the lower Columbia Valley. They have not been a serious pest to road gangs and logging operations in the vicinity of Clatskanie since that time.

A STRATIOMYIID (Hermetia illucens L.)

Virginia. G. T. French (June 22): Specimens were collected in toilets in Hanover County. The flies are quite annoying. (Det. C. T. Greene.)

SADDLE-BACK CATERPILLAR (Sibine stimulea Clem.)

Ohio. T. H. Parks (August 10): Saddle-back caterpillars have been brought in with the statement that they were feeding on corn, pear, and holly trees. We have received more of them than usual.

Mississippi. C. Lyle (August 23): A correspondent at Moss Point, Jackson County, recently sent in larvae collected from pecan trees.

BLOOD-SUCKING CONENOSE (Triatoma sanguisuga Lec.)

Tennessee. G. M. Bentley (August): The giant bedbug seems to be more numerous this year than previously reported. A letter from Surgoinsville dated August 11 reads as follows: "I am sending an insect that has been biting me and causing chills and high fever. Its habits are similar to the bedbug. It comes out at night and feeds, and then hides about the bed. Then in about five days it feeds again. Last summer I found one on the side of the mattress after it had bitten me. This summer I have found two. This one I found hiding on the railing under the springs after it had bitten me all over the body. Its bites cause much swelling and irritation and fever."

A TICK (Dermacentor andersoni Stiles)

Tennessee. G. M. Bentley (August): The dog tick D. andersoni is very abundant in the northern counties of western Tennessee and in scattered localities of upper and middle eastern Tennessee. Dogs are literally covered with them. People also are pestered considerably.

CATTLE

SCREW WORM (Cochliomyia macellaria Fab.)

Georgia. J. B. Gill (August 22): An outbreak of the screw-worm fly was reported about the middle of this month from Brooks County.

Florida. J. R. Watson (August 24): Mr. Fred W. Walker of Monticello reports that the screw worm is very abundant in that vicinity on cattle, hogs, and dogs.

T. W. Cole, Bureau of Animal Industry, Jacksonville, through F. C. Bishopp (August 15): During the past two weeks two centers of screw-worm infestation have been found in Florida by veterinarians on this force in range cattle, one in Baker County and the other in Jefferson County. The State Veterinarian advises us that this is the first time, to his knowledge, that we have had this trouble in the State.

Georgia and Florida. F. C. Bishopp (August 25): The screw worm, a pest of various classes of livestock, is reported as occurring in outbreak numbers in parts of Georgia and Florida. There are no previous records of an outbreak of this pest in this region. Heavy losses have already been reported from Georgia, and the occurrence is causing considerable alarm to farmers and stock owners.



HORN FLY (Haematobia irritans L.)

Texas. E. W. Laake (July 28): Horn flies were quite abundant on cattle in Brazos County, numbering as many as 300 to 500 per animal, with an average in the vicinity of College Station of at least 100 per animal.

GOATS

SHEEP BOTFLY (Oestrus ovis L.)

Mississippi. C. Lyle (August 23): A correspondent at Richton, Perry County, recently sent in specimens of Oestrus ovis with a report that these insects were found in the cavities of horns on several goats.

POULTRY

PIGEON-FLY (Pseudolynchia naura Bigot)

Mississippi. C. Lyle (August 23): Pigeons at McComb, Pike County, were reported as infested with P. naura on July 25.

INSECT CONDITIONS IN PUERTO RICO

Insular Experiment Station

G. M. Wolcott.

The first adults have just transformed from pupae of caterpillars which recently appeared in enormous numbers in the Condado section of Santurce and in Hato Rey, Rio Piedras, defoliating flamboyán (Poinciana regia) trees, and have been identified by comparison with specimens in the collection, as Melipotis acrotides Guen. The only previous record of this insect in Puerto Rico was of specimens collected at a light by E. G. Smyth at Santa Rita (Guanica) during October, November, and December of 1913. Identified by Dr. F. E. Watson.

Adults of Diaprepes abbreviatus L. were noted along the road from Cidra to Las Cruces as having almost entirely defoliated numerous smooth-leaved Ficus trees and some Inga vera trees, but on that date were most numerous on a young mango and a few I. vera.

All mature pods of Crotalaria incana growing wild on the beach between Memeyes and Luquillo were noted as being close to 100 per cent infested with caterpillars of Etiella zinckenella Treit., on June 25 and August 6.

Mr. Andre Audant of Port-au-Prince, Haiti, reports an outbreak of caterpillars, Herse cingulata Fab., in pastures at Cayes.